

Monday, November 07, 2016 4:06:46 PM

Page 1

Stop ***NR2***

[illegible]

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY							
Environment	☐	Design	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong	☐
Doc/Data	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions	☐
Equip/Tooling	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance	☐
Handling/Pre	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect	☐
Material	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing	☐
Internal Transport	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved	☐
Tribal Knowledge	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing	☐
LOA	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish	☐
Substation	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread	☐
Past Expiry Date	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence	☐
Misidentified	☐	Manufacturing Process	☐	OTHER :							
	☐	Past Due	☐								

Work Order ID 152929

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152929

Page 2

Item ID: D412-702-021 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration
Start Date: 10/24/2016 Start Qty: 1.00 ***1*** Cust Item ID:
Required Date: 11/7/2016 Req'd Qty: 1.00 ***1*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00				DAS 28 9-89		DEC 20 2016	
Quality Control									
130	Packaging	0.00							
130									
Packaging	Memo	0.00				DAS 27 9-89	DAS 28 9-89	DEC 20 2016	
Packaging	Identify and pack for shipping as per PPP D412-702-021 Location: <u>hold</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.02				DAS 21 9-89		DEC 20 2016	
Quality Control									
						DAS 21 9-89		DEC 20 2016	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

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Work Order ID: 152929

152929

Parent Item: D412-702-021

D412-702-021

Parent Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016

Required Date: 11/7/2016

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B Removed Manufacturing 05-11-08 JLM
IPP Rev:C06.04.03As per DSI9324 JLM
IPP rev D 06.12.14 per ecn 871 EC
IPP Rev:E 07-03-14 As per DSI 9351 JLM
IPP Rev:F 07-07-28 As per Rev E JLM Verified By:ec IPP Rev.G
11.05.31 DSI 9559 EC verified by:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN4-13A		Purchased	No			120	Each	428.0000	4	4			

AN4-13A

Bolt

**

DAS
6
9-89

DAS
27
9-89

DEC 16 2016

Location

Loc Qty

Loc Code

FG 20
122808 20
GA 35
m134634 19
m135470 16
over003 200
m135966 200
ST343 173
m134852 36
m135470 137

136147

DAS
28
9-89

AN4-20A

Purchased

No

120

Each

69.0000

8

8

AN4-20A

Bolt

**

DAS
27
9-89

DAS
27
9-89

DEC 16 2016

Location

Loc Qty

Loc Code

GA 6
m116419 6
over003 62
m135966 62
ST343 1
m135056 1

136148

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐			FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐					
			OTHER : ☐					

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Work Order ID: 152929

152929

Parent Item: D412-702-021

D412-702-021

Parent Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016

Required Date: 11/7/2016

Start Qty: 1.00

Required Qty: 1.00

AN4-5A

Purchased

No

120

Each

89.0000

4

4

AN4-5A

BOLT

DAS
28
9-89

Location

Loc Qty

Loc Code

ST345

89

m129682

44

m134039

45

**

DAS
6
9-89

DEC 16 2016
DAS
27
9-89

D3195-041

Manufactured

No

120

Each

3.0000

2

2

D3195-041

Bracket

DAS
28
9-89

Location

Loc Qty

Loc Code

ST021

3

144082

3

**

DAS
6
9-89

DEC 16 2016
DAS
27
9-89

D3195-043

Manufactured

No

120

Each

4.0000

2

2

D3195-043

Bracket

DAS
28
9-89

Location

Loc Qty

Loc Code

ST021

4

144083

4

**

DAS
6
9-89

DEC 16 2016
DAS
27
9-89

D3196-1

Manufactured

No

120

Each

8.0000

1

1

D3196-1

Bar

DAS
28
9-89

Location

Loc Qty

Loc Code

ST256

8

144831

1

148466

7

**

DAS
6
9-89

DEC 16 2016
DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
							Completed By		
							Lead hand / Supervisor Approval Verification		
							QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step # : _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

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Work Order ID: 152929

152929

Parent Item: D412-702-021

D412-702-021

Parent Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016

Required Date: 11/7/2016

Start Qty: 1.00

Required Qty: 1.00

D3268-1	Manufactured	No	120	Each	5.0000	2	2	DAS 6 9-89	DEC 16 2016	DAS 27 9-89
D3268-1										
Placard										
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
			ST028	5						
			151440	5		10/12/2017	2			
D3546-1	Manufactured	No	120	Each	4.0000	2	2	DAS 6 9-89	DEC 16 2016	DAS 27 9-89
D3546-1										
Clip										
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
			ST042	4						
			127598	4			2			
D3551-11	Manufactured	No	120	Each	15.0000	13	13	DAS 6 9-89	DEC 16 2016	DAS 27 9-89
D3551-11										
Hook And Loop Tie										
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
			ST416	15						
			150592	5			152915x9			
			152595	10			4			
D412-702-069	Manufactured	No	120	Each	3.0000	1	1	DAS 6 9-89	DEC 16 2016	DAS 27 9-89
D412-702-069										
Grommet										
			<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>					
			ST370a	3						
			149630	3						

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DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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Work Order ID: 152929

152929

Parent Item: D412-702-021

D412-702-021

Parent Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016

Required Date: 11/7/2016

Start Qty: 1.00

Required Qty: 1.00

D4387-041 Manufactured No

120 Each

4.0000

9 9

D4387-041

Harness Assembly

DAS
27
9-89

Location

Loc Qty

Loc Code

ST467

4

150582

4

** 7X/52593

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

D4387-043 Manufactured No

120 Each

8.0000

4 4

D4387-043

Harness Assembly

DAS
27
9-89

Location

Loc Qty

Loc Code

ST467

8

143799

1

144151

3

150635

4

**

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

MS21042L4 Purchased No

120 Each

2,293.000

12 12

MS21042L4

Nut

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

34

m133363

34

GA

204

m135058

204

OVER007

500

m135979

500

ST303

1555

m135704

94

m135774

461

m135864

1000

**

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
				Completed By _____					
				Lead hand / Supervisor Approval Verification					
				QC / QA Coordinator Approval					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Work Order ID: 152929

152929

Parent Item: D412-702-021

D412-702-021

Parent Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016

Required Date: 11/7/2016

Start Qty: 1.00

Required Qty: 1.00

MS24694-S152

Purchased

No

120

Each

11.0000

8

8

MS24694-S152

Screw

**

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST282

11

m135058

11

MS24694-S154

Purchased

No

120

Each

34.0000

8

8

MS24694-S154

Screw

**

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

ST282

34

m135058

34

NAS1149D0463J

Purchased

No

120

Each

3,929.000

20

20

NAS1149D0463J

Washer

**

DAS
6
9-89

DEC 16 2016

DAS
27
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

cnc

200

M135671

200

GA

103

M134508

32

M135056

71

ST260a

1600

M136044

1600

ST263

2026

M135530

30

M135671

1

M135767

995

M135948

1000

20

Monday, November 07, 2016 4:06:46 PM

Shop Packet Print

Page 6

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

DART SERVICE INSTRUCTION

TO AMEND IIN-D412-702-1 REV. A,
AND ICA-D412-702 REV. 4 OR EARLIER APPROVED REVISIONS
REF. TCCA STC: SH04-7
REF. FAA STC: SR01997NY
REF. EASA STC: EASA.IM.R.S.00710

PURPOSE

The purpose of this DSI is to outline the replacement of existing D3446-041/-043 Shoulder Harnesses with the new and improved D4387-041/-043 Shoulder Harnesses.

CHANGE

For the following Kits, the D4387-041 and D4387-043 Shoulder Harnesses respectively replace the D3446-041 and D3446-043 Shoulder Harnesses as follows:

Old Harness P/N	Used On	New Harness P/N	Effectivity
D3446-041	D412-702-021	D4387-041	CHG 003 and subsequent
	D412-702-023		
	D412-702-027		CHG 002 and subsequent
	D412-702-029		
D3446-043	D412-702-021	D4387-043	CHG 003 and subsequent
	D412-702-025		CHG 002 and subsequent

Customers who want to upgrade their shoulder harnesses may replace their existing D3446-041/-043 with D4387-041/-043 per this service instruction.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 152929 M05
16-11-09

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.05.09
CERT. NO.: SH04-7
ISSUE NO.: 3

A	NEW ISSUE	MB	11.05.09
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9559	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		HARNES CHANGE	NTS
DATE	11.05.09	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Work Order ID 152929***152929***

Page 1

Friday, December 16, 2016 7:35:26 AM

Item ID: D412-702-021

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Shoulder Harness,4 Point Attachment,13 Man Configuration

Start Date: 10/24/2016 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 11/7/2016 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
DSI9559	A
IIN-D412-702-1	A

100 Document Control 0.00

100

DOCUMENT CONTROL

DC Memo 0.00

Doc.Control -USB or Paperwork Photocopy bluefile and create labels per PPP D412-702-021 CHG003

DAS
21
9-88

DEC 16 2016

110 Pick Kit 0.00

110

Packaging Memo 0.00

Packaging

QTY -021	QTY -023	QTY -025	QTY -027	QTY -029	QTY -035	Part Number	Description
X						D412-702-021	Dart 13-Man Shoulder Harness Kit, 4-point
	X					D412-702-023	Dart 5-Man Forward Facing Shoulder Harness Kit, 4-point
		X				D412-702-025	Dart 4-Man Aft Facing Shoulder Harness Kit, 4-point
			X			D412-702-027	Dart 4-Man Side Facing Shoulder Harness Kit, 4-point
				X		D412-702-029	Dart 1-Man Forward Facing Shoulder Harness Kit, 4-point
					X	D214-702-035	Dart 5-Man Aft Facing Shoulder Harness Kit, 4-point, for Bell 214B/B-1
1	1		1	1		D412-702-069	GROMMET KIT
2	2					D3195-041	BRACKET
2	2					D3195-043	BRACKET
1	1			1		D3196-1	BAR
1			1			D3196-3	BAR
1			1			D3196-4	BAR
2	2					D3197-041	BAR
4		4				D3198-1	FITTING
2	2					D3268-1	PLACARD
9	5		4	1		D3446-041	HARNESS ASSEMBLY, 4 POINT
4		4				D3446-043	HARNESS ASSEMBLY, 4 POINT
					5	D3446-045	HARNESS ASSEMBLY, 4 POINT
13	5	4	4	1	5	D3551-11	HOOK AND LOOP TIE
2	2					D3546-1	CLIP
4		4				AN4-5A	BOLT
4	4					AN4-13A	BOLT
8		8				AN4-20A	BOLT
20		20				AN960JD416	WASHER (OR NAS1149D0463J)
12		12				MS21042L4	NUT (OR MS21042-4)
8	2		6	2		MS24694-S152	SCREW
8	2		6	2		MS24694-S154	SCREW

QTY -069	Part Number	Description
X	D412-702-069	GROMMET KIT
24	D3619-2	GROMMET
1	D3619-2T1	HOLE PUNCH
1	D3619-2T2	STRIKER BLOCK
1	D3619-2T3	PUNCH
1	D3619-2T4	DIE

REFERENCE ONLY

DART SERVICE INSTRUCTION

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AND ICA-D412-702 REV. 4 OR EARLIER APPROVED REVISIONS
REF. TCCA STC: SH04-7
REF. FAA STC: SR01997NY
REF. EASA STC: EASA.IM.R.S.00710

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	D412-702-029		CHG 002 and subsequent
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	D412-702-025		CHG 002 and subsequent

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DAO # 01-O-01

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